

PCT/US03/31554.27092004
AMENDED CLAIMS

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1. A method of using a shoe system having a resilient shoe insert, comprising:

providing a shoe (300) having a shoe insert (500) disposed inside the shoe, the shoe insert having an upper leg (506) and a lower leg (514) connected by a front end (502) with an attachment segment, the leg (506) having a concave segment (510), the upper leg (506) having an end point (520) and the lower leg (514) having an end point (522) that is separated from the end point (520) with a distance (d1), the insert (500) having an effective length (l₁);

putting a load (L) on the shoe and the insert (500);
compressing the end point (520) towards the end point (522) until a concave upper segment (510) is in contact with a concave lower segment (518) at a contact segment (524) to progressively increase a stiffness of the legs (506, 514) wherein the contact segment (524) remote from an attachment point (512) at the front end (502) so that a loop is formed between the attachment point (512) and the contact segment (524), the contact segment (524) being remote from both the end points (520, 522); and

the contact segment (524) reducing the effective length (l₁) to an effective length (l₂), the length (l₂) extending from the contact segment (524) to the end points (520, 522).

2. The method according to claim 1 wherein the method further comprises extending the contact segment (524) from an outside (530) to an inside (532), the segment (524) being substantially parallel to the front end (502), the front end (502) forming an acute angle to a longitudinal axis (A) of the insert.

3. The method according to claim 2 wherein the method further comprises further compressing the end point (520) towards the end point (522) to reduce the distance (d2) to a distance (d3) that is shorter than the distance (d2) and forming a contact area (526) between the upper leg (506) and the lower leg (514).

PCT/US03/31864.27092004

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Page 4

108A/US

4. The method according to claim 3 wherein the method further comprises extending the contact area (526) from the contact segment (524) to a separation segment (528) and shortening the effective length (l_2) to an effective length (l_3) at a mid-portion (529) of the segment (528), the length (l_3) being shorter than the length (l_2).
5. The method according to claim 4 wherein the method further comprises providing the insert (500) with an effective length (l_{30}) at the outside (530), the effective length (l_{30}) being shorter than the effective length (l_3) at the mid-portion (529).
6. The method according to claim 5 wherein the method further comprises providing the insert (500) with an effective length (l_{31}) at the inside (532), the effective length (l_{31}) being longer than the effective length (l_3) at the mid-portion (529).
7. The method according to claim 1 wherein the method further comprises providing the attachment point (512) with a curvature.
8. (Canceled).
9. The method according to claim 1 wherein the method further comprises providing the leg (514) with a concave segment (518).